

HTIS



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Storage Tank Act Brings Regulatory Changes

By Fred Tramontin and Leonard Lambert, HTIS

The Energy Policy Act of 2005, signed into law on August 8, has important implications for federal and state underground storage tank (UST) programs. Gas station owners and operators, as well as other non-marketers who own underground storage tanks will be affected by the changes to these programs.

The relevant provision of the law, entitled the Underground Storage Tank Compliance Act (USTCA) of 2005 (Subtitle B of the Energy Policy Act of 2005), focuses on preventing releases from USTs and makes important progress towards keeping our land and water safe from UST leakage. The USTCA expands eligible uses of the Leaking Underground Storage Tank (LUST) Trust Fund and extends the LUST Trust Fund tax through 2011.

Based on a provision in the Energy Policy Act of 2005, Federal agencies may now be subject to state fines and penalties for underground storage tank violations. The USTCA *changed the waiver of sovereign immunity language for USTs*.

The Underground Storage Tank Compliance Act of 2005 imposes the following requirements on the EPA and any state receiving money from the federal Underground Storage Tank Trust Fund:

- Beginning in August 2007, the EPA or the states will conduct compliance inspections for all USTs not inspected since December 1998. After completion of these inspections, all regulated USTs will be inspected at least once every three years, following a 2-year phase-in period.
- Requires that the EPA publish

The HTIS Bulletin is designed to keep DOD personnel informed of technical and regulatory developments on the environmentally safe management of hazardous materials and wastes. For technical inquiries, call **DSN 695.5168** or commercial **804.279.5168** or toll free **800. 848.4847**

- guidelines specifying training requirements for persons having primary daily on-site management responsibility for the operation and maintenance of USTs and that states must develop training requirements to meet the EPA guidelines within two years after the EPA publishes its guidelines.
- Prohibits delivery to, deposit into, or acceptance of a regulated substance into a UST at a facility that has been identified as ineligible for fuel delivery or deposit.
 - Requires that in each state receiving federal UST funding, UST facilities must have tank and piping secondary containment to protect groundwater from contamination and must also have evidence of manufacturer and installer financial responsibility.
 - Requires that states mandate secondary containment of all new underground storage tank systems within 1,000 feet of any existing community water system or any existing potable drinking water well or require certification or licensure of UST installers and evidence of financial responsibility for manufacturers of tanks and/or piping and installers of underground storage tank systems.
 - Prohibits use of MTBE in motor vehicle fuel no later than December 31, 2014, except in states that permit it.
 - Require that a strategy for handling tanks on tribal lands must be developed and implemented.
- Some of the requirements must be in place by August 2006 and others will become effective in subsequent years. **DOD and every other federal agency must submit a report to the EPA and Congress by August 2006 that identifies the location, date of last inspection, training provided, any violations, and actions to ensure compliance for each of their USTs.**

To view the full text of this new legislation, please visit: http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_public_laws&docid=f:publ058.109.pdf (Provisions relating to UST/LUST programs are contained under Title XV - Ethanol and Motor Fuels, Subtitle B – Underground Storage Tank Compliance, which can be found on pages 500-513 of the pdf file). For more information about the EPA's efforts to implement the law, please contact [Mark Barolo](mailto:barolo.mark@epa.gov) at: barolo.mark@epa.gov.

Reference:
<http://www.epa.gov/oswer/newsletter/newrules.htm>

NIOSH Issues First Two Air-Purifying Escape Respirator Approvals Under Program for Certifying CBRN Respirators

By Ariel Rosa,
Environmental Specialist,
HTIS

The National Institute for Occupational Safety and Health (NIOSH) issued the first two certificates of approval for air-purifying escape respirators (APER) with chemical, biological, radiological, and nuclear (CBRN) protection. Approval was granted on Oct. 24, 2005, to Mine

Safety Appliances Company for the Safe Escape CBRN APER and on Oct. 28, 2005, to ILC Dover for the SCape CBRN APER. These respirators are air-purifying devices which use a chemical cartridge combined with a particulate filter to purify contaminated air.

The approvals signify that the products are expected to protect the general working population in escape scenarios from chemical, biological, radiological, and nuclear exposures that could be seen at a terrorist event. NIOSH based its determinations on positive results from rigorous laboratory tests, evaluation of product specifications for the devices, and assessment of the manufacturer's quality control procedures.

The action allows the manufacturers to label the approved devices as NIOSH-certified for occupational use. It does not constitute a commercial endorsement of the product.

NIOSH tested and evaluated the devices under criteria announced in October 2003 for certifying escape respirators for use by the general working population against chemical, biological, radiological, and nuclear agents. The CBRN criteria built on NIOSH's existing program for certifying respirators for occupational use in traditional workplace

settings such as factories, construction sites, and healthcare facilities. Development of the escape respirator program involved broad national support and collaboration by many agencies, organizations, and stakeholders.

NIOSH is continuing to test and evaluate other escape respirators submitted by manufacturers for certification under this program. It also is developing similar criteria for approving other types of respirators, such as powered, air-purifying devices, for use by emergency responders. The approvals are posted on the NIOSH web page at www.cdc.gov/niosh/npptl/. Other approvals will be announced and posted as they occur.

For further information on the certification program, contact toll-free 1-800-35-NIOSH (1-800-356-4674), or visit the NIOSH webpage.

On Implementing the GHS for Worldwide HAZCOM

By Abdul H. Khalid,
Chemical Engineer, HTIS

A Globally Harmonized System (GHS) of Classification and Labeling of Chemicals is a common sense approach to define and classify hazards and further communicate information on

labels and Safety Data Sheets (SDSs) or Material Safety Data Sheets (MSDSs). It is not itself a regulation or a model regulation.

The GHS helps and protects consumers, workers, employers, safety and health personnel, transporters of hazardous materials, and emergency responders. The GHS provides infrastructure to establish national chemical safety programs worldwide. The purpose of the GHS is to promote safer transport, handling and use of chemicals worldwide. It harmonizes most of the existing systems for chemicals in transport, in the workplace, in pesticides, and in consumer products **without lowering the level of protection.**

Europeans countries, Canada, Australia, Japan, China, South Africa, South America, Sri Lanka, and other countries are planning or have already introduced changes in their legislations to come in line with the GHS. Canada is in the decision making process at present and is ready to draft regulations that would go to the regulatory process and start implementing GHS in 2006 and 2007 and plan to fully implement it in 2008.

In the United States, the Environmental Protection Agency (EPA), the Occupational Safety and

Health Administration (OSHA), the Department of transportation (DOT), and the Consumer Product Safety Commission (CPSC) are working, discussing, and analyzing situations together with respect to the implementation of the GHS.

The Department of Defense (DOD) is also considering gaps and differences between GHS and the exiting regulations to align with the GHS and to work and reclassify substances (hazardous chemicals, hazardous substances, and hazardous materials) that are currently in the DOD system to be consistent with the GHS classification. **The DOD has to prepare guidance manuals and workshops to assist workers and bring them on par with the national or worldwide chemical classification working system.**

On May 16, 2005, the U.S. Occupational Safety Health Administration (OSHA) in its semi-annual regulatory agenda, indicated that the Agency would add and modify the Hazardous Communication (HAZCOM) Standard to adopt the GHS and would be working on situational approach to classify health, physical, and environmental hazards of chemicals, convey information on labels, and prepare Safety Data Sheets

or Material Safety Data Sheets.

According to OSHA, the first step towards harmonization is to published an advance notice of proposed rule making (ANPR) that will provide opportunity to the public, government, and private industries to provide their input or comments in writing so that the agency would be able to work and develop the GHS that is applicable to the U. S. system, and finally adopt this system in U.S workplaces by 2008. The GHS requirements include:

- Health, Physical and environment hazards criteria for substances and classification of hazardous substances and mixtures.
- Communication on labels that include harmonized pictograms, hazard statements, and signal words.
- Safety data sheet with the minimum required sections compromised with the GHS (a 16 section format).

OSHA intends to adopt a GHS that will be consistent with the HAZCOM and adopt all of the health and physical hazards criteria.

It is possible that the OSHA may not adopt all the categories of each element of the GHS. OSHA will adopt the label provision of the GHS for the harmonized pictograms, hazard statement, and signal word, supplier and precautionary information on the chemicals that are identified.

The benefits of the GHS are:

- Increase the health and environmental protection by providing clear, consistent information to users of chemicals, workers and the public.
- Single words, pictograms, and hazard words will have the same meaning in all existing system in all sectors within countries and worldwide.
- Increase consistency in regulatory requirements in the U.S. and worldwide.

For GHS and OSHA HAZCOM comparison, log onto the OSHA web site at: <http://www.osha.gov/dsg/hazcom/GHSOSHAComparison.html>.

Obtaining Specifications and Standards from the DOD Single Stock Point

By Thomas W. McElwee Jr,
Environmental Protection
Specialist, HTIS

With the advent of new government initiatives such as Radio Frequency Identification (RFID) and Unique Identification (UID) the need to have current copies of the applicable Military Standards (MIL STD 129, MIL STD 130) is more important than ever for both DOD employees and contractors. The primary source for these documents and almost one hundred thousand others (i.e. MIL STD 2073, MIL DTL 197 etc) is the DOD Single Stock Point.

For assistance in ordering specifications and standards, contact:

DOD Single Stock point
700 Robbins Ave, Bldg, 4D
Philadelphia PA 19111-5098

NEED HELP?ASK THE ASSIST HELP DESK at (215) 697-6257 or access ASSIST ONLINE which provides web-based access to the ASSIST database and is free to all registered customers.

To register, for Assist visit the [ASSIST-Online](http://assist.daps.dla.mil) page or call the ASSIST Help Desk at: (215) 697-6257 (Note: Orders are not accepted on this line). The help desk is available M-F from 7:30a.m. - 4:00p.m. (EST) to assist you in matters such as:

- Sources for documents not at the DODSSP
- Establishing a customer account
- Inquiries about the services
- Status of orders previously made
- Assistance in determining document identifiers
- Special request such as obtaining a complete set of documents

For ordering Military Specifications and Standards on-line, see <http://dodssp.daps.dla.mil/> or use "ASSIST" Quick Search at: <http://assist.daps.dla.mil/quicksearch/>.

The ASSIST website will provide you with direct access to nearly 100,000 full text DOD Specifications and Standards in the DOD master repository. **Your search does not require an account number and password.** All documents are available in pdf format and require an Adobe Acrobat Reader to view them. Another good point about the site is that all of

these documents are available for download to the public **free of charge!**

Here are some simple steps to follow to get your documents:

- Go to ASSIST Quick Search: <http://assist.daps.dla.mil/quicksearch/>
- Just type the document that you want to view in the 'Document Number' block (i.e. 2073, 129, etc).
- It will search the database and bring up a web page titled 'This is what we Found' displaying a listing of different documents.
- Select the document you desire from the list of applicable documents with the number entered.
- A web page titled 'Basic Profile' will appear.
- Click on the 'Document Icon' to continue.
- A web page titled 'ASSIST - Enterprise Access' will display a listing of different revisions of the document of your choice.

- Click on the pdf icon of the document revision you desire.
- A 'Down Load' window will open up.
- Click on the 'OPEN' radio button and hit 'OK' button to open the document. We do not recommend you download files to your hard drive, since they consume so much space.
- An Adobe (Portable Document Format) pdf file will appear.
- Click on the 'File' menu, then click on "Print" in the dropdown box and hit 'Enter' to print document -or- Click on the 'Printer Icon' to print the document.

Reference:

<http://dodssp.daps.dla.mil/>

DOD Perchlorate Issue Update

By Tom McCarley, Chemist, HTIS

Perchlorates are highly reactive and even explosive components of rocket fuels and propellants that are also suspected of causing contamination and potential health problems from

drinking water at some of our military installations. Perchlorates have been produced and used for the last half century as rocket fuel and efficient and reliable propellants for munitions that are used by all of the military services in training and combat. Even with their reactive nature, DOD has come to rely on perchlorates for their relative stability (less unintended explosions). Use of stable perchlorates reduces the necessary storage footprint and saves lives for those responsible for handling and transporting DOD munitions.

But now, the increasing focus on perchlorates has been on the chronic health effects of drinking water contaminated with perchlorates. Perchlorates are believed to affect the thyroid glands' ability to produce necessary hormones and the uptake of iodine.

Perchlorate is one of those emerging contaminants without simple solutions and answers. The Department of Defense has spent some \$60 million to study the issue of perchlorate contamination and developing approaches to solutions for the problem. According to Shannon Cunniff, DOD Special Assistant for Emerging Contaminants, \$40 million of the \$60 million has been focused on treatment technologies. In a presentation before the

American Chemical Society at its 230th national meeting held in Washington, DC in 2005, Cunniff outlined the following concerns facing DOD on the perchlorate issue:

- Potential disruption of the ordnance logistics flow. While some new chemistries are in the works for some smokes, flares, and energetics, perchlorate is still used in over 350 munitions.
- Increases in public concern over perchlorate in encroaching upon DOD operations
- Continued uncertainty over directions to take while regulations are pending or being formulated
- Escalation of costs, especially for site characterization and cleanup.

A new DOD policy on perchlorate is being developed and will reflect the current risk assessments and be coordinated with the EPA. According to Cunniff, the public looks at the DOD as a "deep pocket" with their environmental concerns. While the DOD will "step up to the plate" where they are clearly responsible for contamination, the DOD does not have the authority to address drinking water impacts where the linkage to

the DOD is not clear. Perchlorate contamination can be found at many sites, like fireworks facilities with no connection to DOD.

Many sites, DOD and non-DOD have been tested for perchlorate, especially in California and DOD is partnering with other agencies and stakeholders to build on lessons learned in moving forward to allay public fears and solve environmental problems for this emerging contaminant of concern.

Some things that the DOD is doing on the perchlorate issue can be found at the website for the DoD Perchlorate Work Group at <http://www.dodperchlorateinfo.net/>. One new and handy feature of the web site is a drop down dialog box where your particular state can be selected to obtain news and state specific perchlorate information for this multifaceted environmental problem. The perchlorate and other emerging contaminant issues are being addressed by a new Pentagon office called MERIT for "Materials of Evolving Regulatory Interest Team"

References: 1. Presentation of Shannon E. Cunniff, DOD Special Assistant for Emerging Contaminants to the "Perchlorates – Science and Policy" symposium of the Environmental Division of the American Chemical

Society at its 230th national meeting, Washington, D.C., September 1, 2005. 2. Official DOD Web Site for the Perchlorate Work Group <http://www.dodperchlorateinfo.net/>.

PHMSA Issues Safety Advisory on Substandard Compressed Gas Cylinders

By Abdul H. Khalid and Ariel Rosa, HTIS

On August 12, 2005, the U.S. Department of Transportation (DOT)'s Pipeline and Hazardous Materials Safety Administration (PHMSA) and the Office of the Inspector General (OIG) issued a public notice about substandard cylinders that may pose a safety risk to the public and should be considered unsafe for use in hazardous materials service. Cylinders described in this safety advisory should not be filled with a hazardous material.

According to the safety advisory notice in the Federal Register, the PHMSA and the OIG are investigating the manufacture, marking, and sale of high pressure DOT exemption cylinders made and/or distributed by **Global Composites International, Inc. (GCI), Ontario, CA.**

PHMSA and the OIG have evidence that suggests GCI manufactured, marked, certified, and sold an undetermined number of high-pressure DOT exemption carbon fiber filament cylinders when the cylinders had not been manufactured in accordance with the Hazardous Materials Regulations (HMR), DOT-E 12695, and the design qualification standards incorporated into the exemption. The evidence suggests that some of these cylinders were not wrapped with a sufficient number of carbon fiber layers to insure their structural integrity. In addition, the evidence suggests that many of these cylinders did not undergo the complete series of safety tests and inspections required by the HMR and may not possess the structural integrity to safely contain its contents under pressure during normal transportation and use. Extensive property damage, serious personal injury, or death could result from the rupture of such cylinders.

Those interested in seeking further information on this manufacture, marking, and sale of substandard compressed gas cylinders, may contact Raymond L. LaMagdelaine, Chief Special Investigations, Office of Hazardous Materials Enforcement, PHMSA, U.S. DOT, 400 7th Street SW., Room 7104, Washington

DC, 20590, phone: 202-366-4700. The full text of the public notice is available at the GPO web site at:
<http://a257.g.akamaitech.net/7/257/2422/01jan20051800/e.docket.access.gpo.gov/2005/05-16022.htm>

Reference: DOT's PHMSA, Office of the Inspector General, Safety Advisory Notice, August 18, 2005, DOT web site at:
<http://hazmat.dot.gov/regs/notices/rulemake.htm#69fr-47273>

EPA Streamlines General Pretreatment Rules

By Tom McCarley, Chemist, HTIS

In a final rule published in the Federal Register for October 14, 2005, the EPA revised provisions of the General Pretreatment Regulations. These regulations are the wastewater regulations for Industrial Users, including military facilities who introduce pollutants into their municipal Publicly Owned Treatment Works (POTWs). The rules are intended to reduce the regulatory burden for the discharger, POTW, and oversight regulators. The revised rules became effective November 14, 2005 and include the following changes:

- Provides POTWs with the authority to grant monitoring waivers to industrial facilities where they document that pollutants are not present at the facility or anywhere in the wastestream. The EPA notes that this authority is already available in the National Pollutant Discharge Elimination System (NPDES) regulations for point sources discharging directly to surface waters.
- Authorizes POTWs to use general control mechanisms (e.g., permits) to regulate multiple industrial dischargers that share common characteristics.
- Clarifies that POTWs can use Best Management Practices (BMPs) as an alternative to numeric limits that are developed to protect the POTW, water quality, and sewage sludge.
- Clarifies certain requirements regarding the frequency of on-site industrial facility inspections to evaluate the adequacy of controls for "Slug Discharges".
- Provides greater flexibility in the use of certain sampling techniques, and establishes greater consistency with the sampling protocols in other parts of EPA's regulations.
- Provides the Control Authority with the discretion to authorize the use of equivalent concentration limits in lieu of mass limits for certain industrial categories, and allows the conditional use of equivalent mass limits in lieu of concentration-based limits where appropriate to facilitate adoption of new, water-conserving technologies.
- Authorizes POTWs to establish alternative sampling, reporting, and inspection requirements for certain classes of categorical Industrial Users (CIUs).
- Clarifies the definition of significant

noncompliance (SNC) as it applies to violations of instantaneous and narrative requirements, and late reports, and provides additional options for publishing lists of industrial facilities in SNC annually in the newspaper. The rule also retains existing rules and policies regarding the application of Technical Review Criteria (TRC) and the use of the "rolling quarter" approach in determining SNC status.

- Provides updated references relating to requirements that POTWs must meet to adjust removal credits for combined sewer overflows (CSOs).
- Makes other miscellaneous changes designed to maintain consistency with the NPDES regulations or to correct typographical errors.

Reference: Federal Register, Vol. 70, No. 198, pp 60134-60198, October 14, 2005

EPA Simplifies Toxic Chemical Release Reporting

By Abdul H. Khalid,
Chemical Engineer, HTIS

On July 12, 2005, the Environmental Protection Agency (EPA) issued a final rule that amends regulations under 40 CFR 372.85 and 372.95. This action revises the Toxics Release Inventory (TRI) reporting requirements under EPCRA Section 313. The rule simplifies a number of TRI reporting requirements, removes certain data elements from the Form R and Form A Certification Statement that may be obtained from other agency information collection databases or that are rarely used, and updates contact information and descriptions of the Forms R and A data elements.

According to the EPA, this action will improve reporting efficiency and effectiveness and promote data reliability and consistency across the EPA's Program. **The rule became effective on September, 12 2005. The first reports with the revised reporting requirements are due on July 1, 2006, for reporting year 2005.**

For further information on this final rule, contact Shelley Fudge, EPA Office of Information Analysis and Access, phone: 202-566-

0674; FAX number: 202-566-0741 or e-mail at: fudge.shelley@epa.gov. Information on EPCRA section 313 is also available from the TRI information center, toll free phone number at 1-800-424-9346. The full text of this document is available at: <http://a257.g.akamaitech.net/7/257/2422/01jan20051800/e-docket.access.gpo.gov/2005/05-13486.htm>

Reference: Federal Register, July 12, 2005 Vol.70, No. 32, pages 39931-39949.

EPA Expands Hazardous Waste Headworks Exemption

By Tom McCarley and
Abdul Khalid, HTIS

As part of its efforts to provide more flexibility to the hazardous waste regulations without sacrificing human health and the environment, the Environmental Protection Agency (EPA) modified the wastewater treatment exemption for hazardous waste mixtures that are handled by wastewater treatment works. The EPA states that these exemptions, as published in the October 4, 2005 Federal Register, will provide risk-based cost savings to those who handle hazardous waste mixtures that are included in wastewater. The rule,

originally proposed on April 8, 2003 became effective on November 3, 2005 and is one of the first major updates to the wastewater pretreatment program in many years.

Hazardous waste managed in wastewater treatment systems becomes subject to the Clean Water Act (CWA) regulations and at that point ("Headworks") where CWA regulations take over, the RCRA regulations cease to regulate the hazardous waste (See 40 CFR 261.4(a)(1,2)).

The EPA has provided a fact sheet on the Headworks rule at <http://www.epa.gov/epaoswer/hazwaste/id/headworks/hwrk-ffs.htm>

Where the concentration of hazardous wastes is very small compared to wastewater volume, they can be effectively treated by this route. Of course, you need a wastewater permit, or permission of the publicly owned treatment works (not a sure thing).

This new rule makes the following changes:

- Adding two solvents (benzene and 2-ethoxyethanol) to a list of solvents whose mixtures are exempted from the definition of hazardous waste;

- Adding an option to directly measure solvent chemical levels at the headworks of the wastewater treatment system;
- Exempting scrubber waters generated from the incineration of spent solvents from hazardous waste management; and
- Making listed hazardous waste (beyond discarded commercial chemical products) eligible for RCRA de minimus exemption as well as allowing non-manufacturing facilities to qualify for the de minimus exemption. 40 CFR 261.3(a)(2)(iv)(D)

References: 1. Federal Register, Vol. 70, No. 191, pp 57769-577885, October 4, 2005. 2. EPA Factsheet "Wastewater Treatment Exemptions for Certain Hazardous Waste Mixtures" # EPA530-F-05-017, September 2005 - <http://www.epa.gov/epaoswer/hazwaste/id/headworks/hwrk-ffs.htm>



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Reduction in Priority Chemicals or Hazardous Substances

By Abdul H. Khalid,
Chemical Engineer, HTIS

The U.S. Environmental Protection Agency (EPA) has developed a list of priority chemicals or hazardous substances that are used by Federal Government facilities. These toxic chemicals or hazardous substances are significantly harmful to the environment and human health.

Executive Order (E.O.) # 13148 of April 21, 2000, "Greening the Government through Leadership in Environmental Management" directed Federal agencies including the Department of Defense (DOD) to reduce the use of **specified chemicals by 50 percent by December 31, 2006** through various means such as the use of alternative/substitutes, established facility management practices, and pollution prevention. Reduction of generated hazardous and radioactive waste types is also included if an agency is unable to reduce the use of selected chemicals.

Initially, the EPA recommended five (5) priority chemicals and asked Federal agencies to

coordinate with E. O. 13148 working group and agencies environmental executives to determine the need for necessary changes in the implementation of the E.O. at various facilities. The five priority chemicals are:

- Lead
- Mercury
- Cadmium
- PCBs
- Naphthalene

The E.O. 13148 working group prepared a table of alternative to the five priority chemicals. Several alternatives to existing priority chemicals such as electronic thermostats to gradually phase out mercury bearing switches and thermostats, copper or silver to replace solders containing lead/tin alloys, and a replacement of cadmium in electroplating are possible solutions to the E.O. Those interested in the list of alternatives can get this list online at:

http://www.ofee.gov/gp/503c_hemsfnl.pdf.

The National institute of Health (NIH) started a "mercury-Free NIH" campaign to eliminate mercury containing products under the reduction of all sources of pollution and wastes. To learn more about this campaign, visit the NIH web site at:

<http://www.nih.gov/od/ors/ds/nomercury/campaign.htm>.

The office of the Federal Environmental Executive (OFEE) promotes sustainable environmental stewardship throughout the Federal Government. Professionals from the military services (DOD), industry, academia, local, state, and federal agencies have been constantly working and developing programs to improve environmental performance and conditions at their facilities since the EPA developed the list of priority chemicals or hazardous substances. In April 2005, OFEE recognized and awarded Federal facilities and their employees for innovative practices and programs that improved environmental performance and conditions at Federal facilities. The Defense Logistics Agency's (DLA) Defense Supply Center Richmond (DSCR) was selected from nearly 200 nominations in the area of Environmental Management Systems (EMS). The main areas of interest were environmental management system, pollution prevention, recycling, green product purchasing, alternate fuels, constructing sustainable buildings, electronics stewardship, and waste prevention and recycling.

Reference: 1. Office of the Federal Environmental Executive at: <http://www.ofee.gov/gp/pchemical.html> 2. Executive

Order at:

<http://www.epa.gov/ems/federal/eo13148.htm>

Buying Contaminated Land and EPA's Innocent Landowner Requirements

By Tom McCarley, Chemist, HTIS

In a final rule of November 1, 2005 and effective November 1, 2006, the EPA delineated some of many "hoops" a purchaser of potentially contaminated land must go through in order to claim the "innocent landowner" defense under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLA encompasses what we commonly call "Superfund" and "Brownfields". The 45 page regulation covers those persons and businesses purchasing commercial property or any property that will be used for commercial or public purposes and who may, after purchasing the property, seek to claim protection from CERCLA liability for releases or threatened releases of hazardous substances.

The regulation is termed "Standards and Practices for All Appropriate Inquiries" and what constitutes "all

appropriate inquiries” is a major thrust of the new requirements. Without innocent landowner protections under CERCLA, a property buyer could be buying one major headache in terms of cleanup and remediation responsibilities and potentially bankrupting costs.

Some of the inquiries a potential land purchaser must conduct are the following:

- Consider potential problems with contiguous land; this regulation contains such requirements.
- Obtain the results of an inquiry by an environmental professional.
- Interviews with past and present owners, operators, and occupants of the facility for the purpose of gathering information regarding the potential for contamination at the facility.
- Reviews of historical sources, such as chain of title documents, aerial photographs, building department records, and land use records, to determine previous uses and occupancies of the

real property since the property was first developed.

- Searches for recorded environmental cleanup liens against the facility that are filed under federal, state, or local law.
- Reviews of federal, state, and local government records, waste disposal records, underground storage tank records, and hazardous waste handling, generation, treatment, disposal, and spill records, concerning contamination at or near the facility.
- Visual inspections of the facility and of adjoining properties.
- Specialized knowledge or experience on the part of the defendant.
- The relationship of the purchase price to the value of the property, if the property was not contaminated.
- Commonly known or reasonably ascertainable information about the property.

- The degree of obviousness of the presence or likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation.

There are additional requirements if the property was known to be previously contaminated and the EPA makes it clear that even following the suggested procedures may not be sufficient to claim the innocent landowner defense depending on the circumstances. There are other requirements to which the purchaser must follow as well as discussed in the rule.

In the rule, the EPA discusses what constitutes an environmental professional for purposes of conducting a site assessment. In response to comments received on its August 26, 2004 notice of proposed rulemaking, the EPA is recognizing not just those with professional engineers and geologist credentials, but others with years of experience in the field. A college degree is no longer required to be considered an environmental professional for purposes of site assessments under this regulation.

Reference: Federal Register, Vol. 70, No. 210, pp 66069-66113, November 1, 2005.

Hazards Associated with Combustible Dusts

By Abdul H. Khalid,
Chemical Engineer, HTIS

On September 14, 2005, the U.S. Occupational Safety and Health Administration (OSHA) issued a Safety and Health Information Bulletin (SHIB), highlighting the hazards associated with combustible dusts. The National Fire Protection Association's Uniform Fire Codes NFPA 654 standard defines combustible dust as any finely divided solid material that is 420 microns or smaller in diameter and presents a fire or explosion hazard when dispersed and ignited in air.

Many workers have been killed and injured due to organic fires and explosions in recent incidents. The OSHA's SHIB # 07-31-2005, titled, "Combustible Dust in Industry: Preventing and Mitigating the Effect of Fire and Explosions" provides and compares recent organic dust fires and explosions associated with grain dusts including work practices and guidelines to reduce the potential for combustible dust explosions.

This bulletin refers to four major dust explosions that have occurred since February 1999, killing 17 people and injuring 85. The

incidents involved organic dust, including phenol formaldehyde resin dust and combustible polyethylene dust. According to the bulletin, finely dispersed airborne metallic dust can become explosive in a confined building or in a vessel.

All related standards, the emergency action plans, and updated industry consensus standards play an important role in reducing the occurrence of explosions in industries. It is important to know the causes of the incidents and then work on the concepts of hazard assessment, hazard communication, and managing through engineering controls. The elements of a dust explosion include combustible dust, ignition source, and dispersion of dust particles in sufficient quantity and concentration, and confinement of the dust cloud. It is essential to carefully identify the following to assess the potential for dust explosions:

- Materials that can be combustible when finely divided;
- Processes which use, consume, or produce combustible dusts;
- Open areas where combustible dusts may build up;

- Hidden areas where dusts may accumulate;
- Means by which dust may be dispersed in the air; and
- Potential ignition sources.

A hazard analysis is also important and should be tailored to the specific circumstances in each facility including the full range of variables affecting the hazards. The bulletin cites control methods from NFPA 654 and those methods include the following:

- Minimize the escape of dust from process equipment or ventilation systems.
- Using dust collection systems and filters.
- Utilize surfaces that minimize dust accumulation and facilitate cleaning.
- Provide access to all hidden areas to permit inspection;
- Inspect for dust residues in open and hidden areas, at regular intervals, and cleaning at regular intervals.
- Develop and implement

hazardous dust inspection, testing, housekeeping, and control programs, preferably in writing with established frequency and methods.

Workers training is always very important in preventing dust related explosions and fire. Employees should have OSHA required training before they start work in a combustible dust environment and retrained or refreshed as the hazards or processes change.

The full text of the safety and health information bulletin is available at:
<http://www.osha.gov/dts/shib/shib073105.pdf>

Reference: Combustible Dust in Industry: Preventing and Mitigating the Effects of Fire and Explosion at OSHA's web site:
<http://www.osha.gov/dts/shib/shib073105.html>

Working in Cold Environments

By Ariel Rosa and Abdul, Khalid, HTIS

Winter is upon us, forcing America's outdoor workers to face yet another brisk challenge to on the job safety and health. Prolonged exposure to freezing or cold temperatures can result in health problems. For outdoor workers, cold

weather can be a serious hazard. Construction, trucking, logging, commercial fishing, maritime and agriculture are examples of occupations where the potential for hypothermia and frostbite exists. Employers and workers in these occupations need to take precautions and learn how to prevent and treat cold-related disorders.

Because humans are warm-blooded, the body maintains a fairly constant temperature. The human body burns fuel and manufactures heat to keep temperatures within safe limits. Exposure to cold temperatures may cause the body's internal temperatures to fall below safe limits. This occurs when the body loses heat faster than it can produce it. The body's heat loss will also be affected by such factors as the amount of moisture in the air (humidity), the amount of wind, and the type of clothing that is worn.

The two major or most common conditions resulting from extreme cold are frostbite and hypothermia. The actual effects of cold on the body depend on how well the skin is insulated from the environment. Most cold related injuries involve the extremities; nose, ears, hands, fingers, feet and toes. The hands and feet, which are the furthest from the heart, are most cooled. Cold causes the blood to thicken

and therefore it has more trouble reaching the blood vessels near the skin, thus increasing the susceptibility to injury. Effects can be local or systemic. When the body continues to lose heat, involuntary shivers may occur. Involuntary shivers are both the body's way of attempting to produce heat and the first warning of hypothermia. Additional heat loss may cause the brain to become less efficient, produce speech difficulty, forgetfulness, disorientation, loss of manual dexterity, collapse, and, possibly death.

Hypothermia occurs when the victim's core body temperature drops significantly below normal and normal metabolism begins to be impaired. This begins to occur when the core temperature drops below 35 degrees Celsius (95 degrees Fahrenheit). If the body temperature falls below 32 °C (90 °F), hypothermia can become critical and eventually fatal. Body temperatures below 27 °C (80 °F) are almost uniformly fatal, though some people have survived body temperatures as low as 14 °C (57.5 °F).

There are two types of hypothermia, acute and chronic. Acute hypothermia is the more dangerous; the body temperature goes down very swiftly, often in a matter of seconds or minutes, as in when a victim

falls through an ice-covered lake. Chronic hypothermia occurs when the body temperature goes down over a longer period of time.

In addition to prolonged exposure to cold air temperatures, factors that commonly increase your risk of hypothermia include advanced or very young age, substance abuse, impaired mental status and immersion in cold water.

Frostbite occurs most commonly. Frostbite occurs when there is freezing of the fluids around the cells of the tissues of the body from exposure to extremely low temperatures. The freezing point of the skin is about 30° F.

The Occupational Safety and Health Administration (OSHA) has recognized these hazards and developed a "Cold Stress" card that provides recommendations for preventing many cold-related injuries and illnesses. According to OSHA, employers can help protect workers by taking the following steps:

- Recognize the environmental and workplace conditions that lead to potential cold-induced illnesses and injuries.
- Learn the signs and symptoms of cold-induced illnesses /

injuries and what to do to help workers.

- Train workers about cold-induced illnesses and injuries.
- Encourage workers to wear proper clothing for cold, wet and windy conditions. Layer clothing to adjust to ever changing environmental temperatures. Wear a hat and gloves, in addition to underwear that will keep water away from the skin (polypropylene).
- Be sure that workers take frequent short breaks in warm dry shelters to allow the body to warm up.
- Try to schedule work for the warmest part of the day.
- Avoid exhaustion or fatigue because energy is needed to keep muscles warm.
- Use the buddy system — work in pairs so that one worker can recognize danger signs.
- Drink warm, sweet beverages (sugar water, sports-type drinks) and avoid drinks with caffeine (coffee, tea, sodas or hot chocolate) or alcohol.

- Eat warm, high-calorie foods such as hot pasta dishes.
- Remember that workers face increased risks when they take certain medications, are in poor physical condition, or suffer from illnesses such as diabetes, hypertension or cardiovascular disease.

As the temperatures drop, be sure you are doing all you can to protect your employees who work outdoors. Review the factors that contribute to cold-related health and safety issues, and be prepared to address them with your employees. Safety issues of concern include ice, snow, burns from contact with cold metal, slowed reaction time and snow blindness.

For free copies of OSHA's Cold Stress Card in English or Spanish, click on OSHA's website, www.osha.gov, then Newsroom, followed by Publications. Fill out the order form online, and fax your request to Publications at (202) 693-2498. You may also call (202) 693-1888 or write to: U.S. Department of Labor/OSHA, OSHA Publications, P.O. Box 37535 Washington, D.C. 20013-7535 for the publication.

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